



## Is There Harm in Debridement, Antibiotics, and Implant Retention Versus Two-Stage Revision in the Treatment of Periprosthetic Knee Infection?

In a study published in *The Journal of Arthroplasty*, Kaiser Permanente Orthopedic Surgeons and MDSA Researchers identified 1,410 primary total knee arthroplasty patients who had a periprosthetic joint infection (PJI) treated by debridement, antibiotics, and implant retention (DAIR) (n=1000) or 2-stage revision (n=410) during 2005-2018. 150 failed DAIR (DAIR-F) and went on to have a subsequent 2-stage revision within 1-year of the initial DAIR.

Though there is still a lot to understand about PJIs, this study provides additional support for DAIR as an important and safe treatment option for many patients and does not appear to hinder the ability to eventually clear an infection as was previously thought.

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### Study Results

- Although DAIR had a higher risk of septic re-revision when compared to 2-stage revision as the initial treatment for PJI (hazard ratio [HR]=3.09, 95% confidence interval [CI]=2.22-4.42), there was no observed difference in recurrent infection risk following a DAIR-F when compared to those who initially underwent 2-stage revision (HR=1.11, 95% CI=0.58-2.12).
- Higher surgeon or hospital arthroplasty experience/volume did not improve the success of a DAIR procedure (HR=0.99, 95% CI=0.69-1.41 and HR=1.12, 95% CI=0.57-2.21, respectively).
- Infections occurring more than 2 years after the initial joint replacement were significantly more likely to fail a DAIR procedure than those occurring within 90 days of the initial joint replacement (HR=1.92, 95% CI=1.26-2.94).

### Practice Considerations

- Selection of DAIR versus 2-stage revision does not demonstrate adverse outcomes for eventual infection clearance and should be considered in clinical decision-making.
- Transfer to a hospital or awaiting a surgeon with high volume arthroplasty experience does not improve outcomes of DAIR and may instead delay necessary treatment.
- Appropriate selection of patients who are candidates for successful DAIR may be based on risk factors such as an absence of congestive heart failure, unexplained weight loss, and infections early in the postoperative period.

### [Link to Publication](#)

Huffaker SJ, Prentice HA, Kelly MP, Hinman AD (2022). **Is There Harm in Debridement, Antibiotics, and Implant Retention Versus Two-Stage Revision in the Treatment of Periprosthetic Knee Infection? Experiences Within a Large US Health Care System** *J Arthroplasty*, 37 (10): 2082-2089.